

Evaluation of Sport Rehabilitation Students' Value of Communication Skills to Enhance the Summative Assessment of Musculoskeletal Injuries

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ABSTRACT

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The Summative Assessment for Musculoskeletal Injuries, an HE4 module at a University in the North of England, did not assess communication skills, therefore, it was not the most appropriate method of assessing clinical competence. An experimental approach was developed to evaluate the students' clinical experiences gained on their clinical placement at the Sports and Spinal Injuries Clinic (SSIC) within the University. The aim was to develop an approach to alter the weighting of the mark scheme for the module to include assessment of communication skills. A group consisting of students, male and female, completed a question online survey before and after clinical experience. The proposed approach allowed alteration to the weighting of marks in the current mark scheme to now include a percentage of marks awarded for communication skills, interpersonal skills, professionalism and differential diagnosis. This will ultimately enhance the assessment of clinical competence and constructive alignment.

Keywords

Assessment | Clinical competence | Communication | Summative

INTRODUCTION

A Graduate Sport Rehabilitator (GSR) is a graduate level, autonomous, healthcare practitioner who specialises in the assessment and management of musculoskeletal injuries in conjunction with exercise based rehabilitation. The aim of the BSc (Hons) Sport Rehabilitation programme is to provide students with the knowledge, skills and clinical competencies required for a career in sport rehabilitation. The successful completion of a British Association of Sport Rehabilitators and Trainers (BASRaT) accredited course also ensures that students have displayed their ability to safely and competently apply clinical reasoning across a variety of situations, and assign each patient with an affective individualised treatment plan. Professionalism and regulation should run as a developing strand of the curriculum throughout the course of study (BASRaT Educational Framework, 2014).

The programme standards are governed by BASRaT and are devised by the Educational Framework. Any institution which is BASRaT accredited is also required to undergo BASRaT re-accreditation in line with their standard programme re-validation. This separate process of programme re-validation is controlled by both an institution's individual quality assurance team and the guidelines set out by external educational bodies,

such as the Quality Assurance Agency (QAA). All institutions that are accredited by BASRaT must adhere to developing and delivering programmes, which are constructively aligned with the stated learning outcomes of each module. Assessments must be appropriate for the individual module and assess competence alongside fitness to practice. Compliance with these guidelines is paramount in order to achieve the intended product/outcome, the Graduate Sport Rehabilitator (BASRaT Educational Framework, 2014).

Clinical competence has been described as encompassing three main elements. The first element being clinical skills, which includes communication, history taking and physical examination. The second element being knowledge, and the third being problem solving (Newble *et al.*, 2000). Communication with a patient is a core clinical skill (Gadre *et al.*, 2015) and assessment of communication skills has now been included in the formal curriculum of Medical Schools (AGME, 2013). Sport Rehabilitation students who progress from HE4 to HE5 were struggling with communication skills when dealing with patients during their clinical placement in the Sports and Spinal Injuries Clinic (SSIC). Upon consultation with the current HE5 students at the University, it was apparent that the majority of them had not deemed communication skills important at HE4 level, as they were not assessed.

The summative assessment for Musculoskeletal Injuries in HE4 did not assess communication skills, therefore, it was not the most appropriate method of assessing clinical competence or Learning Outcome 1, which was to 'Demonstrate the ability to take a detailed subjective and objective assessment.' BASRaT states that students should start developing the critical skills and knowledge required to provide the best care to a patient (BASRaT Educational Framework, 2014).

The aim of this study was to develop an approach to investigate students' values of communication skills pre and post clinical placement. It was hypothesised that following clinical experience the students will value the soft skills and communication more than they did prior to clinical placement, and if this was embedded into the module, they would feel more prepared for clinical placement.

Assesing Communication Skills

Communication skills are deemed a core clinical skill (Gadre *et al.*, 2015) and clinicians must be able to communicate with patients in order to provide the most appropriate diagnostic hypotheses, treatment and care

thereafter (Windish *et al.*, 2005). Evans *et al.* (1991) postulate that training in communication skills can enhance a students' ability to collate accurate, relevant information. Notably, medical students are rarely educated on the integration of communication skills and clinical reasoning, which may inhibit the understanding of the significant link between the two and ultimately undervalue the psychosocial aspects of patient care (Windish *et al.*, 2005). Windish *et al.* (2005) conducted a study in curricular intervention where 121 medical students underwent a 6 week course of learning communication skills and clinical reasoning in an integrated method. Interestingly, 95% of students found it beneficial to have these two skills in an integrated fashion and had a greater appreciation for the important link between good communication skills and the medical results achieved through clinical reasoning which in turn enhanced a more patient-centred approach to care.

The university HE4 module, Musculoskeletal Injuries, teaches students the fundamentals of assessing common musculoskeletal injuries. This includes both a subjective history (questions regarding patient history and mechanism of injury) and an objective assessment (physical examination). The assessment for this module, to date, has been a practical scenario based examination with the weighting of the marks being 50% subjective and 50% objective. This layout was primarily a 'tick box' exercise which resulted in students passing if they performed the check list, rather than assessing the students' understanding of the process of an assessment and interpreting the information gathered to determine a clinical diagnosis.

Assessment is used to certify the competence of future clinicians (Epstein and Hundert, 2002). Clinical competence has been defined as having key elements such as experience, integrating knowledge into practice, critical thinking skills, communication, professional and safe practice (Smith, 2012). To certify clinical competence, assessments must have a summative function which allows a decision to be made regarding fitness to practice. The test must be appropriate for the assessment of objectives validated in learning outcomes set by the curriculum therefore, to assess communication skills, an interactive test would be most appropriate (Wass *et al.*, 2001).

Assessment of communication skills can be assessed in the Objective Structured Clinical Examination (OSCE) where students are required to perform a number of procedures consisting of technical and non-technical skills (Pugh, 2015). Clinical reasoning problems (CRPs) are another assessment method and upon further reading ultimately encompass all skills taught on this particular module.

This method is based on clinical reasoning skills and using these skills to identify and interpret certain clinical features. Each problem is based on a real life clinical scenario comprising of patient presentation, history taking and physical examination to determine a clinical diagnosis. The key element of this examination process is to determine a differential diagnosis and then prove or disprove the diagnosis with clinical reasoning (Groves *et al.*, 2002).

Miller's Pyramid of Competence was designed in order to outline the issues involved when analysing validity of assessment (Wass *et al.*, 2005). An assessment needed to be derived in order to differentiate between the competencies of students who have performed at a 'Knows or Knows how' level on the pyramid (where the student has worked methodically through a list of criteria) compared to a student who has performed at a 'Shows how' level (worked methodically through the scenario using their communication skills to interpret the information gathered and to use their clinical reasoning skills to produce a diagnosis with clinical evidence). CRPs are a valid and reliable method of assessing clinical competence ($\alpha=0.83$) and have a sufficient power to detect the differences in level of skill of the students (Groves *et al.*, 2002). This method would increase constructive alignment within the module and curriculum and enhance reliability when assessing a student's clinical competence.

Assessments must be appropriate for the objectives being assessed and must replicate a timeframe similar to that in clinical practice (Wass *et al.*, 2005; Groves *et al.*, 2002). The examination, to date, was 35 minutes in duration and consisted of a scenario where the student had to work through a subjective assessment, an objective assessment and a viva voce on common clinical conditions. On reflection, the summative assessment was not optimal for assessing the learning outcomes as it did not assess deep understanding, clinical reasoning via a differential diagnosis or communication skills. The aforementioned skills are encompassed in clinical competence therefore the current summative assessment to determine clinical competence of a student was not appropriate.

The timeframe, for the summative assessment, was also not appropriate as in the Sports and Spinal Injury Clinic (SSIC) an Initial Consultation is 60 minutes and this allows ample time to complete a subjective and objective assessment, diagnosis and treatment. This summative assessment must reflect the needs of a Sport Rehabilitator in clinical practice therefore extending the time of the examination to include 30 minutes for subjective and objective followed by 10 minutes for viva voce would be more appropriate.

Methodology

Participants

A group of 23 students aged 19-25 (mean 20 ± 1.6) were included in a preliminary study. Convenience sampling was used as the students were randomly allocated to the researcher as their personal tutor at the beginning of the academic year. Ethical approval was obtained from the University and all participants completed and signed written informed consent forms.

Proposed Approach

A consultation was conducted with the 44 students in the current HE5 cohort to explain the changes to be introduced to the HE4 Musculoskeletal Injuries module. The researcher asked all 44 students to document how they believed the changes would benefit them through their transition into HE5 and commencing clinical placement in the SSIC, this was then reassessed post clinical experience. From the experiences documented the common themes were determined, these being: preparation for clinical placement, understanding of the assessment, communicating with patients, clinical reasoning, explanation of the assessment to a patient and working within a team.

A six statement online survey was created in Survey Monkey platform based on Waclawski (2012). Each question (Box 1) was designed based on the common themes in order to monitor students' value of communication skills upon completing HE4, progressing to HE5 and commencing clinical placement in the SSIC.

The most appropriate answer options for these statements, as they are based on the personal experiences of the students were: Strongly Agree, Agree, Somewhat Agree, Disagree, Strongly Disagree.

The questionnaire was completed following clinical experience. Preliminary analysis of the data clearly shows that students now highly value the importance of communication skills in clinical practice. This finding would lend support to the hypothesis that students would have been better prepared for clinical placement if communication skills were taught and examined at HE4 level.

To ensure reliability, two sets of data were collected. The initial themes were collated from the experiences of all 44 students and then 23 of these students completed the questionnaire. As 23 students participated in both sets of data this will increase intra-participant reliability. To

ensure validity of the study, the design was based upon the Learning Outcomes in the Module Handbook which from the programme standards governed by BASRaT and are devised by the Educational Framework (BASRaT Educational Framework, 2014).

Box 1: The six statement online survey.

1. The addition of communication skills would better prepare students for clinical placement
2. Communication skills would enhance the understanding of each musculoskeletal test in the assessment and knowledge of what it is testing
3. If communication skills were assessed, this would give more confidence when talking with patients
4. Communication skills will help with developing clinical reasoning skills
5. Having good communication skills will help when explaining the assessment, diagnosis and treatment to a patient
6. Having good communication skills will enhance your ability to work within a team.

However, a potential limitation of the study, which may have an impact on the results, is subjectivity. In this approach, the students are answering the questions based on their own personal experiences. Therefore, the element of subjectivity could skew results. Another limitation of the current study could be the population size. If all 44 students had completed the questionnaire, rather than the focus group of 23 students, this would increase the reliability of the study.

The preliminary data collated from this approach has highlighted the key areas students felt they were unprepared for when commencing their clinical placement in HE5 and how they believe the teaching and assessment of communication skills would better prepare them. On reflection of the summative assessment mark scheme, it was apparent that the marking of the assessment was on a very superficial level and therefore lacking in the assessment of deep knowledge and understanding of clinical reasoning.

In addition, this approach has allowed the weighting of marks in the current mark scheme to be altered by the module tutors from the original mark scheme to now include a percentage of marks awarded for communication skills,

interpersonal skills, professionalism and differential diagnosis. The summative assessment will continue to consist of a subjective assessment (50%) and an objective assessment (50%). However, the layout will now be based on CRPs. This method is based on clinical reasoning skills, and using these skills to identify and interpret certain clinical features. The key element of this examination process is to determine a differential diagnosis and then prove or disprove the diagnosis with clinical reasoning (Groves *et al.*, 2002). The duration of the examination will be lengthened from 35 minutes to 40 minutes in order to reflect a practicable time frame used by clinicians in clinical practice.

The changes to the weighing of the marks in the mark scheme to include differential diagnosis, clinical reasoning and communication skills will allow the student to be assessed as a clinician. This will ultimately enhance the assessment of clinical competence and constructive alignment. Further research, using an action research method, could investigate the most effective methods used to teach communication skills.

CONCLUSION

In light of the above preliminary findings, it has shown that the preliminary study has been extremely beneficial. It has brought to the forefront the value students now possess for communication skills within the skillset of a Sport Rehabilitator in clinical practice.

The main objective of the project was to develop an approach to evaluate students clinical experiences of communication skills, to enhance the summative assessment of musculoskeletal injuries. Based on this objective, an additional aim was to alter the weighting of the allocation of marks on the current mark scheme to include communication skills. This approach will ultimately better prepare HE4 students for the role of a Sport Rehabilitator and clinical placement in HE5 level. In terms of wider perspectives, the proposed approach will enhance students' professionalism, clinical reasoning skills and communication skills by assessing the student as a clinician. This would therefore, in turn, improve employability prospects and patient care.

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AUTHOR CONTRIBUTIONS

The author confirms being the sole contributor of this work and approved it for publication.

CONFLICT OF INTEREST STATEMENT

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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